DOCUMENT RESUME

ED 428 685 IR 019 346

AUTHOR Laffey, James M.; Musser, Dale; Tupper, Thomas
TITLE An Internet-Based Journal System for Learning.
PUB DATE 1998-06-00
NOTE 9p.; In: ED-MEDIA/ED-TELECOM 98 World Conference on Educational Multimedia and Hypermedia & World Conference on Educational Telecommunications. Proceedings (10th, Freiburg, Germany, June 20-25, 1998); see IR 019 307. Figures may not reproduce clearly.
PUB TYPE Reports - Descriptive (141) -- Speeches/Meeting Papers (150)
EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Access to Information; *Computer Assisted Instruction; *Computer Mediated Communication; Computer System Design; Educational Technology; Higher Education; Internet; *Journal Writing; Preservice Teacher Education; *Student Journals; Student Role; Teacher Role
IDENTIFIERS *Learning Communities; Technological Infrastructure; University of Missouri Columbia

ABSTRACT

This paper describes an Interactive Shared Journal System (ISJS) that provides access, support, and sharing for the processes of learning to become a teacher. This system is a component of the undergraduate teacher education program at the University of Missouri-Columbia. ISJS is a flexible system for the development and support of learning communities, but in the context of the undergraduate teacher development program it can best be understood as enabling three key processes--access to Internet-based resources, capturing experiences, and sharing experiences. These processes are undertaken in the context of a community made up of four roles: administrators, who are responsible for the system; mentors, who are responsible for instruction and modeling; students, who are responsible for articulation of experiences; and guests, who have limited access to public information. Topics discussed include: technology infrastructure; access to resources; the organization and use of the journal system; and sharing experiences using an archive, live chat, and instructor-structured experiences distributed to individual students or to groups. Results of the pilot year of implementation and future plans are also covered. Four figures illustrate: the tools window; a list of journal entries; a sample journal entry showing text, links, an image, and a sound; and a system user profile window. (DLS)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

An Internet-based Journal System for Learning

PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

G.H. Marks

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

James M. Laffey
Dale Musser
Thomas Tupper

Center for Technology Innovations in Education
111 London Hall
University of Missouri-Columbia
Columbia, MO 65211
jim@coe.missouri.edu

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

- ☐ This document has been reproduced as received from the person or organization originating it.
- ☐ Minor changes have been made to improve reproduction quality.
- • Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

ED 428 685

Abstract: An emerging model of learning as situated in social practice is challenging traditional methods of education that tend to isolate the student and abstract the learning processes and outcomes from the social and cultural practices that give them meaning. Approaches to learning and professional development are increasingly turning toward models of induction and apprenticeship. For teaching and learning processes these models emphasize learning from experience and the development of expertise as a process of progressive problem-solving and movement past present levels of competence. This paper describes an Internet-based journal system to provide access, support and sharing for the processes of learning to become a teacher.

Educators and learning scientists are coming to understand that learning is not a discrete process which can be abstracted out of social and cultural experiences, but rather that learning is a part of each human experience. Further, learning from experiences can best be understood when it is seen as situated in a community of practice [Brown, Collins, and Duguid 1989] [Lave and Wenger 1991]. The models of induction and apprenticeship are also aligned with a view of the professional as a reflective practitioner engaged in life-long learning. Donald Schon [Schon 1983] described professional practice as being engaged in a reflective conversation with an uncertain situation, taking stances, experimenting, and learning from the back-talk of the situation.

Following from these emerging understandings of professional education the College of Education (COE) at the University of Missouri-Columbia designed a new undergraduate teacher development program. The new program emphasizes:

1. learning from field experience (i.e. a substantial part of the program is situated in K-12 classrooms),
2. becoming a reflective practitioner (i.e., being challenged to articulate one's experience and learn from the backtalk of the situation.), and
3. induction into a learning community of educators (progressively more challenging responsibilities in teaching, developing habits and strategies for life long learning, and contributing to a knowledge-base of teaching and learning to teach.

Technology infrastructure

The COE envisioned a technology infrastructure connecting students to a common knowledge base and support structure even when dispersed throughout various school systems in the State of Missouri. Students would participate in field experiences in remote schools, communicating about those experiences, being supported as they made sense of the experiences, and building an appreciation and capacity to use a network of resources (human and archived) for engaging in reflective conversations with uncertain situations.

The three key elements for the initial implementation of the technology infrastructure are access, support, and a sharing service. *Access* was made possible by providing Macintosh Powerbook 1400's to all 290 freshmen students in the class of 2000 and approximately 30 faculty who would guide their first year curriculum experience. The Powerbooks have both ethernet and modem capabilities for making

IR019346

BEST COPY AVAILABLE

connections to network services. *Support* issues are handled by multiple training session about using the technology, a special troubleshooting team created to address technical problems, and a newly designed physical space, called the reflector, for shared resources such as desktop systems, printers and check out for audio-video devices. The current paper describes the Interactive Shared Journal System (ISJS) designed, developed and implemented to support the *sharing* service for the new processes of teaching and learning.

ISJS is implemented on a Macintosh client and Silicon Graphics Indy servers. The clients and servers communicate over the internet using TCP/IP connections. Anyone who has access to the internet via a direct connection or a SLIP or PPP connection is able to participate, thus students can connect from any home or school location in Missouri and beyond. In addition the software supports the creation and editing of journal entries off-line for later upload when a connection is available. A custom server was created for connecting and maintaining a login to the journal system. The server provides communication between the client and an Oracle database. ISJS is a flexible system for the development and support of learning communities, but in the context of the undergraduate teacher development program it can best be understood as enabling three key processes: access to Internet-based resources, capturing experiences, and sharing experiences. These processes are undertaken in the context of a community made up of four roles:

- administrators, who are responsible for the system;
- mentors, who are responsible for instruction and modeling;
- students, who are responsible for articulation of experiences; and
- guests, who have limited access to public information

Access to Resources

When a student logs into ISJS with an id and password they connect to an intranet of information and communication services. Figure 1 shows the tools menu that greets users once they have successfully logged into ISJS. Users have access to an internal email system that allows for posting mail to internet-based accounts, but also enables an internal mail system for sending messages to other ISJS users via their ISJS login id. This feature will be especially valuable for K-12 students who do not have email addresses. Users can also invoke the Netscape browser from the Tools window. The News button and Resources button take the user to custom news readers and web pages. These features allow the faculty to craft special discussion or HTML environments for their students and their curriculum and have them directly available within ISJS. The inclusion of these first four services in the tools panel is primarily to organize and integrate these features in a single environment for the faculty and student.

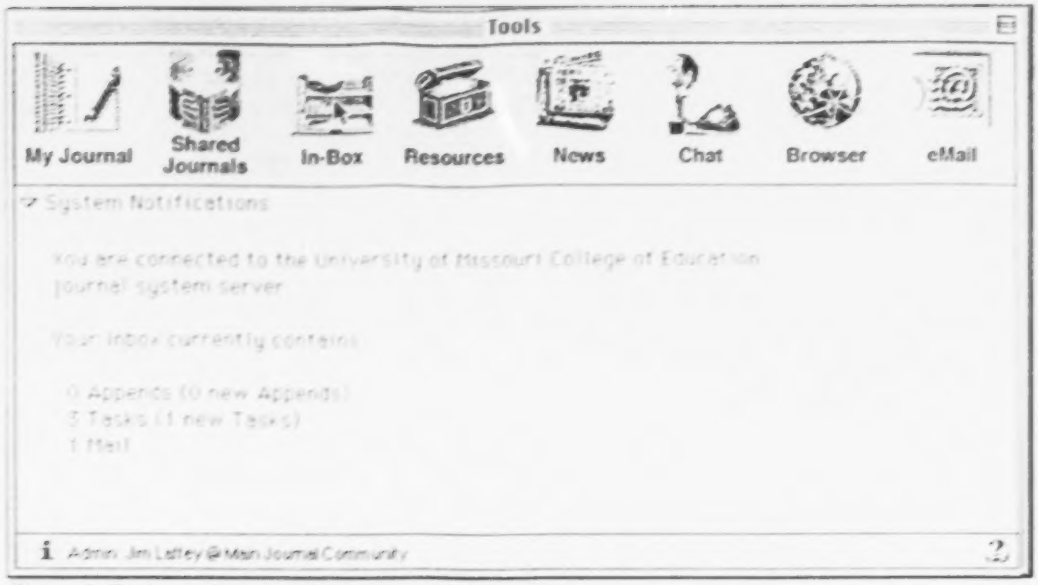


Figure 1: Tools window provides access to shared services.

Capture Experience

When a student selects "My Journal" from the Tools window they open a list of existing journal entries. Figure 2 shows four types journal entries: Journal, Append, Source Task and Task. The Journal entry is used to represent an experience or reflection. An Append is a personal journal entry that is attached to another persons journal entry. For example, a mentor or other user might be reading a journal entry from a student. The reader can click the append button that allows for a new entry to be created and attaches it to the open entry. Source Tasks are created by Mentors as assignments and can be distributed to students and then monitored for progress. A Task is what the student receives from the mentor. The sections of the task created by the mentor cannot be modified by the student. The student can, however, insert his or her response to the assignment and indicate level of progress. The journal entries are organized by folders for the various groups that a user has joined or can be sorted by alphabetic title or by date. When entries are created or updated the author can set access privileges to be private, public or by group membership. Figure 2 shows the symbols for each of the four types of entries and illustrates that entries can be either public or private. In addition public entries can be organized by groups of users (not shown in figure).

BEST COPY AVAILABLE

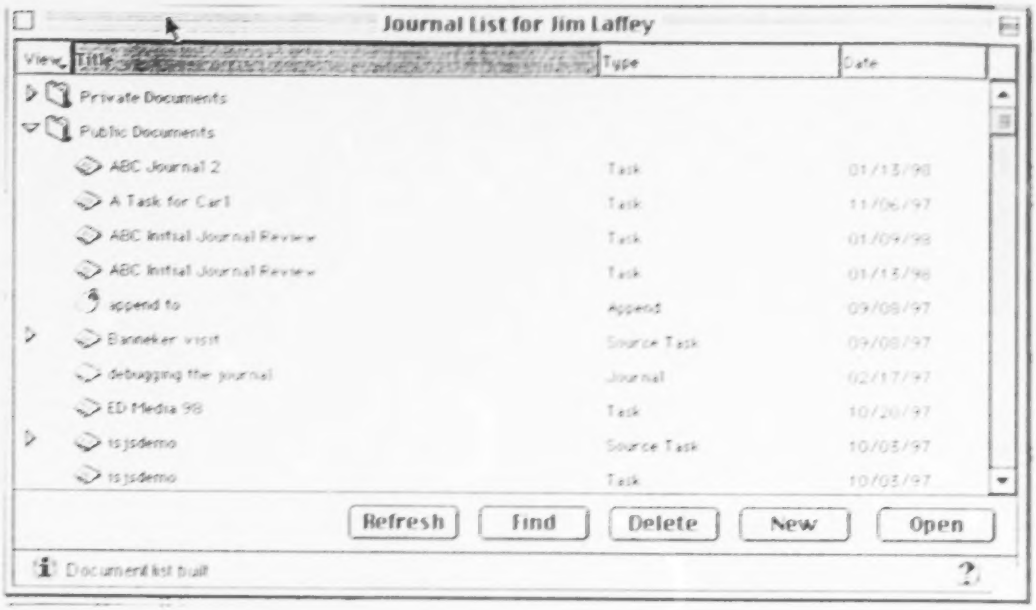


Figure 2: List of entries in My Journal

A user can create a journal entry with the New button on the list window or directly from the File menu. A standard entry has several elements: a title, keywords, access privileges, an author, a body, and it may have appends. A source task has a distribution list, and a task has a progress status. A key design goal of ISJS was to enable mentors and students to express themselves with as much representation power as possible in order to facilitate articulation and communication. To this end we have created a journal entry as a set of media and link objects. Figure 3 shows a journal entry that includes text fields, a link to a web page, a link to another journal entry, an image, and a sound object.

BEST COPY AVAILABLE

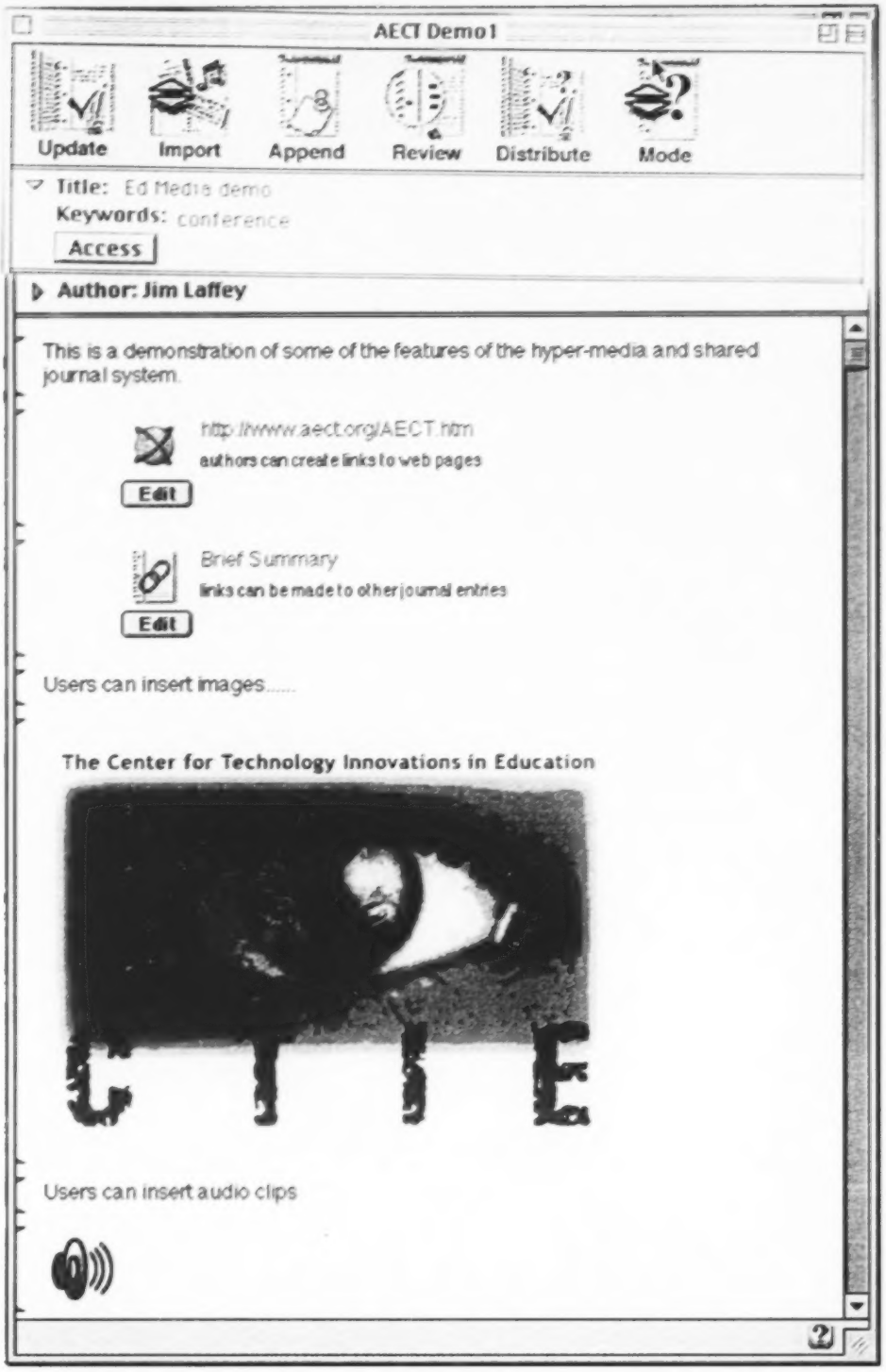


Figure 3: Journal entry showing text, links, an image and a sound.

BEST COPY AVAILABLE

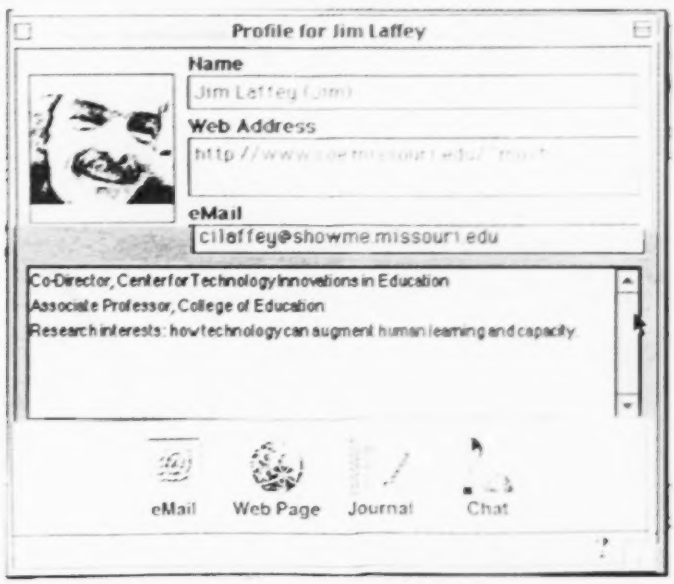
In addition entries can include attached binary files (e.g., an excel spreadsheet or video clip).The media objects can be imported into an entry through cut and paste from an open document or through a file access dialog if they reside as a file in computer storage. Objects can also be acquired on the fly by selecting an open web page or journal entry, or by using a media control panel for capturing sound through a microphone, a video still from a camera, or an image from a scanner. The object rich journal entry form can facilitate the student as they capture their experience and as they represent it. For example, a student on a classroom visit can capture images of the seating arrangement or bulletin boards, record audio of students reading text passages, or include links to web sites the students found or developed during class assignments. Fellow students or the instructor can not only review the students text descriptions of the experience, but can have a mediated tour of the experience, facilitating understanding and discussion.

Sharing Experience

The idea of capturing experiences can be extended by enabling the student situated in the experience to call up journal entries of classmates who have undertaken similar assignments. By comparing one's "findings" with those of others, our student can "make better sense" of the experience. In this way, by allowing access to a dynamic community memory, ISJS scaffolds students as they take on progressively more challenging tasks in the community of educators.

ISJS is an archive of experiences, richly presented, that can facilitate being successful on challenging tasks, thus enabling the curriculum to provide progressively richer experiences for the student. Based on research undertaken at Apple Computer, electronic systems can augment the processes of taking on new challenges, sharing resources, and being guided to successful performance. [Laffey 1995] articulated the characteristics of a dynamic support system as the ability to change with experience, to be updated and adjusted by the performer, and to augment other resources found in the performer's community. The archived experiences can become especially valuable when enriched by appends from faculty, peers, or practicing teachers.

To build a learning community ISJS was designed to represent both users and their archived experiences. The system enables each user to create a personal profile that represents a type of business card from which other users can connect via email, view a personal web page, enter one's journal or solicit a chat session. Figure 4 shows a profile window for a system user.



BEST COPY AVAILABLE

Figure 4: A profile window for a system user.

In addition to archived representations of experiences ISJS affords a live chat intranet. A faculty member or student for that matter could invite students to a chat session in the evening following a set of field experiences. Similarly a chat session could be invoked amidst a field experience to seek suggestions or help make sense of an observation. Users of the system can see who is on-line by asking for a list of people on-line. On-line users can be sent notes asking to meet in a private or open chat room.

Another form of sharing is for the faculty or mentor to structure an experience for a student. Instructors can create object rich source tasks that can be distributed to individual students or groups. Figure 2 shows a journal entry that a mentor has turned into a Source Task. Once an entry becomes a Source Task the mentor can use the Distribute button to assign the task to members of the community and the Review button to monitor progress in the completion of the assignment. A student receives the task in "My Journal", but a pointer to the task is also placed in the "In-Box" to facilitate the students attending to the task. The In-Box also holds system email and shows when someone has created an append in one of your journal entries. Upon opening the task the student can report about the work they undertook to complete the task and also use a slider bar to mark their progress on a 0 to 100 scale. When the mentor reopens the source task he or she can review student progress and directly open the student task entry.

Conclusion.

ISJS provides an electronic support environment for many of the teaching and learning processes of learning from field experiences, of supporting reflective practice, and of sharing within a learning community. Our experience is showing that learning communities can be augmented by a technology infrastructure that emphasizes access, networking, and shared services. The pilot year of implementation with freshmen students in the undergraduate teacher education program has provided several markers of progress. Representing learning experiences in an electronic journal supports the articulation and sharing of experiences and the ability of faculty and students to derive benefit from field-based learning. ISJS also enables connections to resources and learning experiences that are otherwise inaccessible. For example, we have a cohort of practicing math and science teachers using ISJS with their students as the students undertake project based learning. ISJS is being used to help the preservice teachers "observe" project based learning via reading journals, and is beginning to be used to facilitate a conversation between the preservice teachers and the high school students so as to support the work of learning from their projects. Given some good beginnings, the pilot year has also shown that traditional methods are slow to yield to new approaches in a college of education and that many challenges remain to be overcome. One example of the strength of existing practices is that although ISJS affords the opportunity for a network model of sharing (e.g., communication among peers), almost all instances of ISJS usage of appends show a hierarchical model of sharing (e.g., students provide entries for review by faculty who then use appends to provide comments)

The coming year represents several advances in system use and utility. The freshman and sophomore classes of the teacher education program, including faculty, for a number of about 600 will use ISJS. A key system enhancement is to develop a second client based on the use of a web browser and Java scripting. This client will enable cross-platform use of ISJS. ISJS is a continuing effort to match innovations and advances in technology to the communication and sharing needs of a learning community.

References

[Brown, Collins, and Duguid 1989] Brown, J. S., Collins, A., & Duguid, P. (1989). Situated cognition and the culture of learning. Educational Researcher, 18(1), 32-42.

[Laffey 1995] Laffey, J. M. (1995). Dynamism in performance support systems. Performance Improvement Quarterly, 8(1), 31-46.

[Lave and Wenger 1991] Lave, J. & Wenger, E., Situated learning: Legitimate peripheral participation. Cambridge, U.K.: Cambridge University Press.

[Schon 1983] Schon, Donald (1983). The reflective practitioner: How professionals think in action. New York : Basic Books.